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ABSTRACT

This paper presents an overview of current research on causal attributions for success and failure with a focus on theoretical developments since the Weiner et al (1971) paper and applications which have been made using this theoretical model. Theoretical advances include more sophisticated measurement of causal attributions, applications of the cognitive judgment literature to attributional judgments and work on the consequences of various attributions. Other work has been done on how a success or failure is defined. Applications to co-ed sports classes, consumer reactions to product failure, employee performance judgments and alcoholism are referenced. (Author)

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Causal Attributions for Success and Failure: Advances in Theory and Applications

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Attribution theory is concerned with how people interpret information about their own behavior and the behavior of others in making judgments about the perceived underlying causes of events. It is assumed that people implictly or explicitly are constantly making causal attributions about events in their lives. These causal judgments are believed to be central to people's understanding of their environment, for their predictions about the future, and for their reactions to various events.

Although attribution "theory" is concerned with causal judgments made in a number of situations about many types of events, the focus of this paper will be on those attributions made about success and failure events--or more generally, attributions for good and bad events. Our approach to attribution theory grew out of a focus on achievement events where success and failure are especially salient. However, the concepts developed to explain achievement oriented behavior have now been applied to a variety of other settings. These include sports attributions, employee performance evaluations, alcoholism, wife beating and toleration by women of being beaten, and parole decisions among others. We have also looked at non-laboratory achievement events such as taking an exam.

Applying achievement attribution concepts has had direct benefits for understanding diverse areas of behavior. It has also served to develop this theoretical orientation and to give us new methodologies for studying causal attributions. However the basic model still relies heavily on the pioneering work of Weiner and his associates (e.g., Weiner, 1974; Weiner, Frieze, Kukla, Reed, Rest and Rosenbaum, 1971). This group has done extensive work in investigating the role of causal attributions for success

and failure in explaining achievement-oriented behavior. This research has concentrated upon three major areas: Information processing and its effects upon causal attributions; the types of causal attributions made to explain achievement events; and the effects of various causal attributions upon affect, expectancies and subsequent achievement strivings.

THE ATTRIBUTION PROCESS FOR ACHIEVEMENT EVENTS

Research into various aspects of the attribution process has been increasingly active over the last ten years. Based on a variety of studies dealing with how people utilize information in making causal judgments of all types and the consequences of various attributions, psychologists now understand a good deal about causal attributions. Most theorists would agree that making a causal attribution is basically an information processing task. A person determines why a particular event occurred through assessing the available information about the person and the situation and combining this in some relatively systematic manner on the basis of past experiences and internal biases (e.g., Carroll, Payne, Frieze and Girard, Note 1; Frieze, 1976 a; Heider, 1958; Kelley, 1971; Shaver, 1975; Weiner, 1972).

On the basis of empirical findings as well as upon some speculation, the achievement attribution process has generally been conceptualized as shown in the schematic model labeled Figure 1 (Frieze, 1976 a). Although similar models have been suggested for situations in which people themselves are participating in an achievement-oriented activity (Frieze, 1973), this model assumes that a person observes someone else participating in an achievement event such as taking an exam (the typical situation for much of the achievement attribution research). Within the attribution process, readily avail-

able information about the exam and the person taking it are combined with a judgment of the actual test score as either a success or failure (Box 1 in Figure 1) as the first step in determining why this outcome occurred. Current literature suggests that the causal attribution may be determined in one of two ways. In situations similar to those experienced in the past, the person may quickly assess the readily available information and then match this situation to a previously developed causal schema or decision strategy (Box 2) and form an immediate causal attribution (Box 7). This may take the form of a simple bias toward certain causal attributions for success and others for failure or it may represent a more complex but familiar schema.

Insert Figure 1 about here

In cases where there is no readily available causal schema in memory, the person will attempt to develop a new information processing strategy (Box 3). It is hypothesized that the person will systematically consider the available information in arriving at a judgment about why the success or failure occurred. For example, information which might be relevant in attributing the outcome of an exam to one of many possible causes includes knowledge of how well the person has done on past exams of the type given, as well as his or her previous experience on other types of exams. Also, the time spent studying might be important information. This information would be systematically weighted and combined by the person to determine why he or she succeeded or failed the exam (Frieze, 1976 a). Studies have shown that people have consistent and systematic methods for combining and weighting information in making this type of causal judgment (e.g., Frieze and Weiner, 1971; McArthur, 1972). If, in

attempting to process the available information, the person finds that the processing strategy developed is not consistent with other previously developed rules or that he or she lacks sufficient information to be reasonably certain of the attribution, the person may seek further information (Box 5), perhaps making a tentative attribution while seeking additional data. For example, in the above instance the person might also want to know who else took the exam and how well they did. Once an acceptable processing rule is developed, this rule is then added to memory (Box 6) so that it can be utilized on future occasions, and the causal attribution is made (Box 7).

Causal Attributions

Returning to the example of the person taking an exam, once all available information is processed, a person might then determine that the success on the exam was due to one or more of several possible causes: the person's ability in that subject, her trying hard, the exam's being easy, or good luck. Similarly, if he had failed, it might be attributed to lack of ability, lack of effort, the difficulty of the exam, or bad luck. These four causes were specified by Heider (1958) and have been most fully researched by Weiner and associates (e.g., Weiner et al., 1971; Weiner, 1974). More recent work (Elig and Frieze, 1975; Frieze, 1976 b) has indicated that other causal factors in addition to ability, effort, luck and task difficulty are frequently employed by people in explaining achievement success and failure. These include stable effort or a consistent pattern of diligence or laziness, other people who may aid or interfere with performance on a task, mood or fatigue or sickness, having a good or bad personality, and physical appearance (see Elig and Frieze for a more complete discussion of these causal elements). These attributions may be classified into three dimensions as shown

in Table 1. Each of these dimensions (internality, stability and intentionality) has different relationships to the attributional consequences represented by Boxes 8, 9, and 10.

Insert Table 1 about here

The first dimension, internality, has to do with whether the cause of an event is associated with the primary actor in the situation, and is thus internal, or whether the cause is external to this person. Thus a person may succeed on an exam because of the internal causes of ability, effort, mood, personality or knowledge. He may also succeed because of external factors: the ease of the task, someone else's help, or good luck. Related to this dimension and sometimes confused with it is the third dimension of intentionality. If the actor has control over the internal cause it is intentional (see Elig and Frieze, 1975). Thus, effort is internal and intentional while ability and personality are unintentional, although still internal. External causes can be intentional if they involve another person who controls them. If someone else aids the actor, this would be an external, intentional cause. These two dimensions are confounded in the widely cited concept of locus of control. An internal locus of control, would, in our terminology, involve an internal and intentional cause while external locus of control typically involves external, unintentional factors (see Elig and Frieze, 1975; or, Rotter, 1966).

Another dimension which is extremely important for classifying causal attributions is stability. Ability, personality and unchanging environmental factors are stable and change relatively little over time. Effort, mood and luck are unstable. They

are highly changeable. Stability involves a relatively unchanging cause during the time period and across the situations one wishes to generalize to. Thus, the task may be stable or unstable depending on whether the task will change in the future (Valle and Frieze, 1976; Weiner, et al., in press). Other causes may also be reclassified within the dimensions depending on the specific situation (Elig and Frieze, 1975; Weiner, Russel and Lerman, in press).

Consequences of Attributions

As seen in Figure 1, once the attribution of the event is made, certain consequences follow (Boxes 8, 9, and 10). If the performance of a student failing an exam is attributed to lack of effort, he may be expected to succeed in the future if he tries harder. If, on the other hand, the failure is attributed to lack of ability, he will be expected to do just as poorly in the future. Weiner, et al. (1971) have systematically shown how changes in expectancies for future success on achievement tasks (Box 8) are affected by differential attributions. Weiner, Nierenberg and Goldstein (1976) and Valle and Frieze (1976) have shown that expectancy changes are related to the stability dimension. Stable causes produce expectancies that outcomes will continue to be the same, while unstable causes at times produce unusual expectancy shifts such as the Gambler's Fallacy (e.g., beliefs that success will be followed by failure or that failure will be followed by success). These expectancies are then also used as information for making attributions about future events (Feather, 1967; Feather and Simon, 1971 a, 1971 b). For example, outcomes at variance with expectations are often ascribed to luck.

Although affect (feelings of pride or shame) may be dependent directly upon the outcome of behavior (e.g., children feel happier after success than failure regardless of the information they are given) (Parsons and Ruble, 1972), affect also is mediated by the causal attribution (Box 9). Studies have shown that outcomes attributed to internal factors are experienced with more pride or shame than outcomes seen as caused by external factors (Weiner, 1974). They also result in more positive evaluations by others when successful and less positive evaluations when not successful (Rosenbaum, 1972).

Finally, as a result of the expectations and affect associated with the causal attribution, behavior such as reward or punishment of the outcome occurs (Box 10). Rewards may also be mediated by the intentionality of the causal attribution (Frieze, Fisher, Hanusa, McHugh and Valle, in press; Weiner, in press).

CHANGING CONCEPTIONS OF THE ATTRIBUTIONAL PROCESS

The conception of the attribution process described above was based largely upon laboratory studies where college students were made to succeed or fail at an achievement task and/or where only a small portion of the model was tested at one time. When attributional studies were done in less rigid settings, several modifications were found to be necessary (see Frieze, 1976 a and b).

Defining the Event

In much achievement attribution research, subjects are told how a person (sometimes themselves) has performed on a task and then is asked to state why this person performed in this way. Sometimes this judgment is based on other information the subject is given and at other times solely on the outcome as it is defined and what-

ever background and biases the subject brings to the situation. One of the difficulties with this approach is that defining an event as a success or failure is in fact a complex process that involves large individual differences. On a naive level, we know that a "B" grade on an exam might be considered successful for the "C" student and a failure for the "A" student. Such discrepancies have also been reported in a variety of studies which ask subjects to rate their subjective sense of success or failure. For example, in a recent set of studies we found that subjects' ratings of how successful they felt they were on a university classroom examination correlated .38 with their actual exam score in one class and .62 in another class (Frieze, Fontaine and Snyder, Note 2). Thus, even in the second class, the actual outcome accounted for less than 40% of the variance in subjective feelings of success or failure.

Typically, subjects have been told whether they should consider their performance a success or failure on the basis of (false) college student norms. Even when such a procedure is used, subjects do not always accept this experimenter evaluation. In many cases, the experimenter is not aware of this since subjects are not asked to state subjective outcome. However, in a study which did allow for this, Elig (1977) had to eliminate several subjects who saw themselves as failing when they should have labeled themselves as successes or visa versa. Although these cases accounted for less than 5% of his subjects, these were the extreme cases who were willing to actively discount the experimenter's instructions. Other subjects may have accepted the overall label but saw themselves as relatively high or low in their group.

Research in non-academic achievement settings appears to be even more problematical. There are numerous definitions, for example, of success in a sporting

event. Winning is one, but playing well may be equally important (Duquin, in press). Also a bare win may be seen as a loss if the losing team has a poor reputation.

It appears that there are multiple criteria for success in most situations. In some ongoing research with housewives I'm doing with John Carroll and Stephanie Birnberg, we are finding that success standards vary by the type of task as well as across individuals. Housewives tend to use objective characteristics of the job to evaluate housework but they are more likely to use subjective evaluations of others in evaluating how when they are doing as wives or mothers. This issue is one in which further research is needed. Defining a task as successful may well involve a process as complex as forming a causal attribution. Important determinants may include initial expectations, the performance levels of similar and dissimilar others, and perhaps even the causal attribution. Several papers have dealt with this issue in other contexts (e.g., Festinger, 1954). This prior work needs to be integrated with this important attributional issue.

Another related issue is that subjects may not think of tasks in the same units as the experimenter. When students are asked to state why they did well or poorly on an exam, they may say that they did well on some questions because they studied those and poorly on others because the test was hard. Thus, a test may be defined as a series of questions, some of which were success tasks and others which were failure tasks (Frieze, et al., Note 2; Snyder, Frieze and Fontaine, Note 3). The importance of carefully defining or clearly understanding the task which the subject evaluates has also been noted and discussed in the attribution context by Carroll, et al. (Note 1), and Newtson (1976). Such clear definitions may be even more necessary when the situation

involves more subjectively determined outcomes. What situation is a housewife responding to when you ask her whether she is a successful mother? What event is the person responding to when he is asked why another person is an alcoholic? The less precisely defined the situation, the less clear it will be what the person is making attributions about.

Information Processing

A series of studies have been done to investigate how people use information in making attributional judgments (Boxes 1, 2, 3, 4, 5 and 6 of Figure 1). In general, these studies have tended to look for specific information cues associated with specific causal attributions. Studies have utilized both different cue sets and different attributions as dependent ratings. Cues presented in various studies have included the outcome alone, the expected outcome, the outcome in relation to the pattern of previous outcomes and in relation to how other people have reacted or done in similar situations, and the amount of time spent working on a task (e.g., Fontaine, 1974; Frieze and Weiner, 1971; McArthur, 1972).

In a typical study, the subject is provided with a number of informational cues in all possible combinations and asked to rate why each event described by a particular cue combination might have occurred. ANOVA models have been used for data analysis, and interaction effects have been equated with configurality in cue usage. Although these studies have used a wide variety of cues, situations and attribution rating scales, results have been surprisingly consistent (see Frieze, 1976 a, for a review of this literature).

This research has clearly established that college student subjects can utilize

information in meaningful ways to make causal attributions for success and failure in achievement settings. Referring to the model of the attributional process presented in Figure 1, these studies further suggest that some of the information processing rules (Box 2) may be simple relationships between specific informational cues and causal judgments. Although various cues are related to each of the independent causal judgments, there tends to be one cue for each cause which shows a qualitatively stronger relationship: (a) Ability is primarily related to consistency with the past; (b) Effort is most related to a covariation of incentive with outcome; (c) Inconsistencies over time result in luck or mood attributions; and, (d) Task outcomes are most common when an outcome is experienced by many people (Frieze, 1976 a).

Information Processing and Cognitive Psychology

One of the basic issues in this work is again the question of whether people indeed process information in this way. As discussed by Carroll, Payne, Frieze and Girard (Note 1), the fact that subjects can respond differentially and in appropriate directions to different arrangements of stimuli does not tell us if this is what they really do. Thus, the fact that the ANOVA model used to analyze subjects' responses achieves significant F-tests does not necessarily mean that the process used by subjects to make attributions has actually worked in a way similar to the ANOVA model. If some people, some of the time, respond in a reasonably adaptive way to the structured cues of the task, the overall results could indicate "significance" without validating that they are indeed processing the cues in an ANOVA manner or that they even use these cues in a less structured (and more realistic) situation. A similar distinction between the "paramorphic representation" of the judgment and the actual

judgment process has been noted in much information processing research (e.g., Dawes, 1975; Dawes and Corrigan, 1974; Slovic and Lichtenstein, 1971). If we want to really understand how people make causal judgments, we must employ some of the techniques developed by cognitive psychologists who directly study how people process information and form cognitions (see Carroll, Payne, Girard, and Frieze, Note 1; Fischhoff, in press).

There are a number of concepts that attribution theorists might borrow from cognitive psychology. For example, "representativeness" has been shown to be important in the process of naive prediction (Kahneman and Tversky, 1972, 1973). This research has found that people predict the outcome that appears most representative of the evidence given to them. While this can lead to correct judgments, it can also lead to large and consistent biases since initial base rates and the reliability of the data are often ignored (see Carroll, et al., Note 1; Fischhoff, 1976; Kahneman and Tversky, 1973; Nisbett, Borgida, Crandall and Reed, 1976).

A second important concept is "availability:" the ease with which instances of some event can be brought to mind, remembered, or imagined (Tversky and Kahneman, 1973). Tversky and Kahneman found that subjects judge the frequency of an event by how easily instances can be brought to mind (cf. "scripts" idea of Abelson, 1976). Thus, a concrete example may carry far more weight in influencing an attributional decision than statistically more reliable population data (see Carroll, et al., Note 1; Nisbett, Borgida, Crandall and Reed, 1976).

Related to the availability or script idea is Kelley's (1972) notion of causal schemata. Kelley assumes that people have "a repertoire of causal schemata, each of

which is evoked under certain conditions" (Kelley, 1973, p. 167). These assumed patterns enable economical and rapid references to be made. The covariation principle is thus cast into a more limited role as a "context within which some limited and small sample of observations is interpreted" (Kelley, 1973, p. 113). Such schemata could also be conceived of as scripts or complete examples of particular successes or failures and the conditions under which they were experienced. Thus, if someone knows that a person resembles someone else he has known, he may infer that the person will be likely to experience the same outcomes and make predictions on the basis of that assumption. For example, a candidate for graduate school with low mathematics GRE scores and a good undergraduate record may be admitted if someone says, "Oh, yes, she reminds me of Mary. Remember how well she did?" However, if the candidate is compared to an unfavorable example, the person may not be admitted. Dawes (1976) points out that important decisions are often made on the basis of very little information. If people indeed use scripts and make assumptions about the data which is not accessible to them, such judgments are not so surprising.

Orvis, Cunningham and Kelley (1976) have shown that subjects do make assumptions about missing information when asked to make attribution judgments. Their work was based on the Kelley (1967) hypothesis that three basic types of information were used in making attributions: consensus, distinctiveness and consistency. They noted that certain types of information tended to be associated with certain causal attributions. Low distinctiveness was not associated with person attributions, high consensus with stimulus attributions, and low consistency with circumstance attributions. When such information was available, subjects assumed other data which would also lead to the associated attribution.

The idea of an underlying schema which subjects attempt to match available data to was also noted by Frieze (1973). She gave subjects three informational cues sequentially, and asked for attributions after each cue. As noted earlier, subjects tend to use particular cues for making specific attributions. When the preferred cues were not present in this study, subjects used whatever was available to make an attribution. When the preferred cue arrived, that cue was used thereafter regardless of previous or subsequent information. This data would also suggest that subjects do change their judgments when they receive better information but more research is needed to verify that this happens and what variables affect attribution change and stability.

Carroll, et al. (Note 1) conclude that these studies suggest a very different model of information utilization in making attributional judgments than the ANOVA models suggested by Kelley (1967, 1972) and other research (e.g., Frieze and Weiner, 1971):

> The person does not perform a three-way ANOVA which would involve summating and multiplying arrays of figures to get an attribution. Rather, people expect one of a small number of patterns of information, and the cues in the task are compared against these ideal cases. The patterns become "Hypotheses... (which) enter into the inference process itself. Information is compared with them and is interpreted in terms of the pattern(s) with which it is consistent" (Orvis, et al., 1975, p. 606). This process description has the advantage of being consistent with research about decision making and human judgment in cognitive psychology. The process of comparing cues to a small number of patterns is strikingly similar to the process described in the representativeness heuristic discussed earlier; patterns are inferred to the extent that cues are representations of the patterns. This process would seem to make more modest demands on the attention, memory, and effort of the person. It also would require few separate considerations of past experience, and therefore be more commensurate with the short time it appears to take a person to make an attribution when asked to do so (Carroll, Payne, Frieze and Girard, Note 1).

Referring to Figure 1, this work suggests that Box 2, the storehouse of rules and schemata may be used even more often than implied by previous research. It would appear that rarely would the stages described in Boxes 3 to 6 be necessary for adults who have a large storehouse of representative incidents.

Informational Cues

Within most of the attribution information processing studies, the information provided to the subjects (Box 1) has generally been selected from a relatively small set of cues: the type of task, how well other people performing the same task have done, how well the person has done in the past, and how much time was spent working on the task. These cues have been chosen because they were felt to be important by the experimenter for intuitive or theoretical reasons. It is assumed that because people do in fact utilize this information that it is the information that they would naturally use to determine why achievement events happen. In order to test these assumptions and to establish the validity of the cues used in previous studies, Frieze (1976 b) asked subjects to state what information they would want to help them better understand an achievement situation about which they were asked to make attributions. Since the responses were entirely open-ended, they did not cue subjects to any particular responses. Based upon the information obtained from 80 college students, 13 categories of information were derived from the data. In order of their frequency of requests, these were:

(1) Task: Specific information about the type of exam or situation.

(2) Incentive: The importance of the outcome to the person.

(3) Ability: The ability, skill or past history of successes of the person.

(4) Social comparison: The skill or ability of other people involved in the situation or how these other people performed.

(5) Effort: The effort exerted by the person.

(6) Instructor: Information about the person teaching the class in which the exam was given, especially about the teaching skill of this person.

(7) Mood: The mood or state of mind of the person.

(8) Exact outcome: Detailed information about the exact outcome or score or what items were missed on the exam.

(9) Identity of the person: Nonspecific information about who the person was.

(10) Other people: Information about other people who intentionally affected the outcome; the presence of cheating on the exam.

(11) Cheating: Knowledge about whether the person cheated or let someone else do better intentionally.

(12) Luck: How lucky was the person?

(13) Team effort: Information about the outcome being dependent upon a group rather than an individual.

Over 75% of the information requests were classifiable into these categories (the percentage varies from study to study). Overall, people wanted between two to three types of information to explain each event, even though studies have shown that people may utilize as many as five information cues when they are presented with the information (Frieze and Weiner, 1971).

Similar types of information requests were found by Fisher (1976) who asked subjects to make judgments about interpersonal skills, an employment situation, and

a parole situation. She did find, though, that requests varied across these three types of situations. In the interpersonal skills situation the general characteristics and behavior of the person was most relevant while in the employment setting there was more desire to know the employee's ability and external factors which may have facilitated or inhibited performance. For the parole decision the person's general characteristics, past record of crimes and the severity of the crime were most requested. Thus, contrary to the generally held idea in achievement attribution research that situational variations are relatively minor, there were major differences in specific frequencies of information requests across situations. This is congruent with the information processing literature where the task itself is seen as the strongest determinant of behavior (Simon, 1969). This also provides some support for the previously discussed idea that people rely on underlying schemata in making attributional judgments and that these schemata vary across situations. On a practical level, such work also implies that laboratory and simulation studies must use care to provide subjects with the information which would be most relevant to them in making their causal judgments. This might be established through use of pre-tests with the open-ended information requests employed by Frieze (1976 b) and Fisher (1976).

CAUSAL ATTRIBUTIONS

As discussed earlier, college students use a wide variety of causal attributions in explaining the causes of success and failure (Elig and Frieze, 1975). When the situation involves nonacademic settings, the list grows even longer (e.g., Elig and Frieze, 1975; McHugh, Note 4; McHugh, Duquin, and Frieze, in press; Shields, Note 5; Valle and Wallendorf, Note 6). Snyder (Note 7) in an earlier paper in this session discusses

the role of situational variation in the causal attributions made to explain the causes of various achievement outcomes. It is clear that the researcher must use the appropriate causal attribution categories for the situation; he cannot rely on the four causes (ability, effort, luck and task difficulty) originally proposed by Weiner, et al. (1971). Although these causes are used in academic achievement settings (e.g., Frieze, 1976 b), they may not be relevant for other settings (see Weiner, et al., in press).

A second issue related to causal attributions is their measurement. Researchers have tended to use a variety of techniques for assessing attributions. These include having subjects sum a variety of causes to equal 100%. A second method is to have subjects independently rate various potential causes for how much each contributed to the outcome. Finally, subjects can simply be asked to state why a particular event occurred and this open-ended data can be coded through some procedure such as that outlined by Elig and Frieze (1975). Each of these methods has strengths and weaknesses. The first allows for precise assessment of the relative weights attached to various causes but it does not allow for analyses involving two or more causes since the ratings are not independent. The second reverses these characteristics. An open-ended procedure has more content validity and does not restrict subjects to a list of codes previously determined to be relevant by the experimenter. However, the data is difficult to code and does not allow precise analyses since it is categorical rather than numerical.

Elig (1977) investigated these three methods to see which yielded more valid data in terms of the theoretical consequences of attributions described earlier. He found that no method was clearly superior but that asking subjects for independent ratings for how much each cause was a factor yielded the best overall data. However,

he used a situation in which there have already been many open-ended studies to determine the appropriate list of causes. We would recommend that researchers first employ an open-ended procedure with their actual subject population and then use the most frequently generated causes in later rating scale studies.

NEW DIRECTIONS FOR RESEARCH

The research developed to explain the causes of academic success and failure is now being applied to a variety of problems. A symposium earlier in this conference has discussed some of these. For example, Duquin (Note 8) discusses the attributional consequences of having children in co-educational physical education classes. Valle and Wallendorf (Note 6) show how consumer attributions affect reactions to products which do not work properly. Shields (Note 5) shows how causal attributions might affect a variety of decisions in the evaluation of employee performance, and McHugh (Note 4) shows how underlying assumptions about the causes of alcoholism might affect the treatment of alcoholics. Fontaine (Note 9) shows some of the underlying attributional dynamics for low self esteem in women. We are also doing some current research on women who are beaten by their husbands and their beliefs about why this happens. All of this research is current. Some of it is still exploratory and attempts to explain the attributions of people in particular situations. Others actually look at affective and behavioral consequences. Hopefully researchers will do more of the latter as this research develops. Only then will we fully understand the attribution process and the effects of various causal attributions on important behaviors.

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TABLE 1

A Three Dimensional Model for Classifying Causal Attributions for the Success and Failure of Others

(Modified from Elig and Frieze, 1975)

	INTERNAL	
	Stable	Unstable
Intentional	Stable effort of actor (diligence or laziness)	Unstable effort of actor (trying or not trying hard)
Unintentional	Ability of actor Knowledge or background of actor Personality of actor	Fatigue of actor Mood of actor

	EXTERNAL	
	Stable	Unstable
Intentional	Others always help or interfere	Others help or interfere with this event
Unintentional	Task difficulty or ease Personality of others	Task difficulty or ease (task changes) Luck or unique circumstances Others accidentally help or interfere

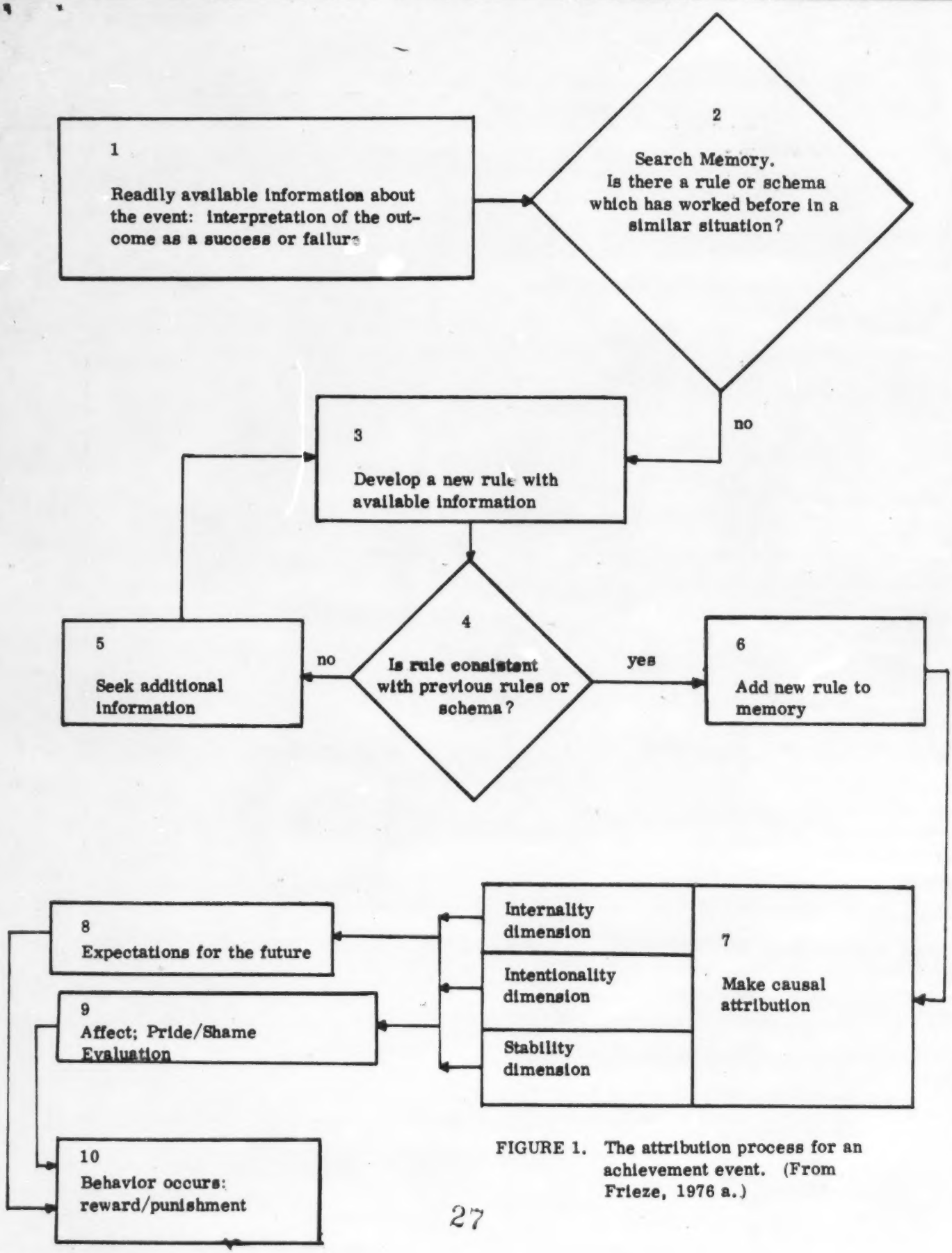

FIGURE 1. The attribution process for an achievement event. (From Frieze, 1976 a.)